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BLUGLASS DELIVERS PROCESS TRANSFER FOR SEREN PHOTONICS

Key Points

- BluGlass' epitaxy (foundry) customer, Seren Photonics (Seren), achieves successful transfer of semi-polar GaN template process
- BluGlass technology team facilitate the successful transfer of Seren's GaN template process to the BluGlass MOCVD platform
- The two companies will continue to work to improve the yield, uniformity and defect density

Australian technology innovator BluGlass Limited (ASX:BLG) has successfully facilitated for its customer, Seren Photonics Limited, a UK developer of semi-polar gallium nitride (GaN) products, the transfer of their GaN template process to the BluGlass MOCVD platform.

BluGlass has been working with Seren since November 2016 (BluGlass Foundry Announcement) with the objective of transferring the process from laboratory scale equipment onto a production relevant MOCVD platform.

Semi-polar gallium nitride (GaN) is an alternative GaN template for the manufacture of LEDs, that overcomes many of the problems associated with the green gap (inability to make efficient green LEDs using MOCVD) and has the potential to also address LED efficiency droop, where the LEDs become gradually less efficient at high power. Previously, semi-polar GaN was only available in small pieces, cut from a bulk GaN crystal. The Seren technology creates high quality semi-polar GaN on industry standard 2", 4" and 6" sapphire wafers. BluGlass and Seren are working together to demonstrate commercially viable semi-polar devices including reviewing the potential to use BluGlass' proprietary RPCVD technology to further improve the performance of green LEDs.

BluGlass will continue to work with its customer Seren, with future development now focusing on refining the manufacturing process with an emphasis on improving uniformity and yield, whilst parallel development will continue to focus on further reduction in defect density.

BluGlass Managing Director, Giles Bourne said today "*It's pleasing to see another BluGlass custom epitaxy customer achieve a successful technology demonstration. We look forward to continuing to assist Seren deliver the successful completion of the next stage of development*". He added "*BluGlass selects its customers based on the potential benefits to the nitrides industry, as we seek to work with the next generation of technology developers*."

Seren Chief Development Officer, Dr. Bedwyr Humphreys, said *"It's great to see a process that was developed in a university lab successfully scale up on to a production relevant platform. The focus now is on moving the product development to the next stage where we can start to look at refining the process. We had always designed the process with production in mind so it's really exciting to see this basic process demonstrated on a 19 x 2" MOCVD reactor, which now means we can sample in much larger quantities than before."*

The lack of an efficient green LED has limited the market size for many applications requiring red-green-blue (RGB) LEDs, such as colour controlled lamps in general lighting. As well as reducing barriers for existing applications, an increasingly efficient green LED technology is also an enabler for new technologies such as the rapidly emerging RGB microLED space, expected to be used in next generation display technology due of its low power consumption and vivid colour.

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About Seren Photonics

Founded in 2009 by venture capital firm FusionIP plc, Seren Photonics Ltd is a spin-out from the University of Sheffield. It has commercialised technology developed by Prof Tao Wang of the Electronic and Electrical Engineering Department and uses nano engineered structures to enhance the properties of III-Nitride materials.
Seren Photonics' focus is on development and manufacture of semi-polar and non-polar Gallium Nitride (GaN) templates designed to enhance the performance of GaN LED's, lasers, VCSELs and power switches.

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About BluGlass:

BluGlass Limited (winner of the 2013 Australian Technologies Competition) is an Australian green technology company formed to commercialise a breakthrough in the Semiconductor Industry.
BluGlass has invented a new process using Remote Plasma Chemical Vapour Deposition (RPCVD) to grow semiconductor materials such as gallium nitride (GaN) and indium gallium nitride (InGaN), crucial to the production of high efficiency devices such as next generation lighting technology Light Emitting Diodes (LEDs) with advanced performance and low cost potential. The RPCVD technology, because of its low temperature and highly flexible nature, offers many potential benefits over existing technologies including higher efficiency, lower cost, substrate flexibility including GaN on silicon and greater scalability.

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